CHAPTER

9

Responding to Office Actions

After a regular patent application is filed, the first communication from the PTO you will receive is an acknowledgment receipt if you filed on the Internet, or a receipt postcard if you filed by mail, assuming you've followed the instructions in *Patent It Yourself*, Chapter 10. Next, if you've followed all the instructions, you'll receive a filing receipt.

The waiting time for the next communication will vary from one month to as much as two years, depending upon the technological field of the invention and the drawings.

Rule 85(a) (37 C.F.R. 1.85(a)) states that before the application will be assigned to an examiner, the drawings must meet all formalities (compliance with all rules, including size of paper, character of lines, and so on). After the filing receipt is sent, the drawings will be sent to the Drawing Review Branch, where the PTO's draftspersons will study the drawings and usually send a Notice of Draftperson's Patent Drawing Review (PTO 948) form (Illustration 9.1) with a cover letter. The PTO 948 form will indicate any drawing informalities, and the cover letter will state that any informalities must be corrected before the application file will be sent to its examining division. If the drawings are in formal condition and have no errors, no PTO 948 will be sent. If you have done a superb job in preparing the drawings and application, and if the examiner does not find close prior art (older inventions, typically found in existing patents), your next communication will be a Notice of Allowance and Issue Fee Due, which indicates that the application has been approved.

However, if your drawings have one or more informalities, the next communication you may receive will include the PTO 948, in which the PTO will list the informalities, as explained in "Notice of Draftsperson's Patent Drawing Review," below. A cover letter will advise you that you may have to correct the informalities and file corrected drawings before the application can be sent to the examiner for substantive examination. The rest of this chapter explains how to remedy various informalities and file corrected drawings. Once you have satisfied the Drawing Review Branch, the application file will be sent to the examining division. (Sometimes the application will go to the examiner anyway, even with drawing informalities, and the PTO 948 will be sent with the first Office Action.) The Office Action is a multipage letter from an examiner who examined your application. The Office Action will indicate that the application is not approved for one or more reasons.

Objections and Rejections

The drawings in each regular patent application are examined by two branches of the PTO: the Drawing Review Branch and the Examining Branch. The results of the Drawing Review Branch's examination will be mailed after the filing receipt or with the first Office Action. The results of the Examining Branch's review, if any objections are found, will be included as part of the first Office Action. Typical objections from an examiner are more substantive than those from the Drawing Review Branch—for example, the drawing fails to show one or more features recited in the claims, the reference numerals in the drawing do not coincide with those in the specification, a chemical or mechanical process should be illustrated, or there is some technical inaccuracy in the figures. The drawings in a provisional patent application are not examined; see *Patent It Yourself* for details on provisional applications.

A rejection is made when the claims (the part of an application that defines an invention in legal terms) have substantive defects, such as, they're unpatentable or unclear. An objection, whether made by the examiner or the Drafting Review Branch, is typically applied to nonsubstantive defects of an application, such as incorrect paper size, incorrect line spacing in the specification, misspellings, mismatched reference numbers between the description and drawings, unclear description, inadequate detail in the drawings, and improper claim dependency. All objections and rejections must be overcome by fixing the cited defects, or successfully arguing against them. Otherwise, a patent will not be granted.

New, corrected drawings must be filed to overcome all objections. Refer to *Patent It Yourself*, Chapter 13, for how to handle objections and rejections relating to the specification and claims, and general information on how to prepare a response or an amendment to the Office Action.

There are many possible drawing-related objections. This chapter details how to handle the most common ones. A Notice of Draftsperson's Patent Drawing Review (PTO 948) always gives reasons for any objection, so you will understand it even if you get one that is not covered here. If you do not understand an objection, you may call your examiner or drafting reviewer to ask for clarification; their helpfulness varies from person to person. The phone number of the examiner is provided on the last page of the Office Action, and the phone number of the Drafting Branch is provided on the Notice of Draftsperson's Patent Drawing Review (discussed below), which is included with the Office Action. You should feel free to call these numbers if you have questions, but obviously you should try not to antagonize the person on the other end of the line, as that will hurt your chances.

Reading the Statute and Rule Numbers

An Office Action always cites specific laws and rules for the objections or rejections, such as 35 U.S.C. § 102; 37 CFR § 1.83, and so on. "35 U.S.C." means Title 35 of the United States Code, which is the patent statutes. "37 CFR" means Title 37 of the Code of Federal Regulations, which is a compilation of the patent rules. "§" is the section symbol, and the number following it is the specific section of the statute or rule that is being applied to the application. Statutes are laws, which are written in relatively broad terms, whereas rules are written to expound on the laws and are more specific.

Both statutes and rules can be found on the PTO's website (www.uspto.gov).

Objection or Rejection Under 35 U.S.C. § 112

As already stated, an Office Action details objections or rejections to an application under various statutes and rules. An objection or a rejection may be made under 35 U.S.C. § 112, and reads as follows:

"The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide an adequate written description of the invention, and to provide an enabling disclosure." ("Enabling disclosure" means information, including written description and drawings, that are detailed and clear enough to enable someone skilled in the pertinent field to make and use the invention.)

or

"The claim is rejected under 35 U.S.C. § 112, first paragraph, as the claimed invention is not

U.S. DEPARTMENT OF COMMERCE-Patent and Trademark Office Application No. _____

NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

The drawing filied (insert date)_____ are:

A. _____ not objected to by the Draftperson under 37 CFR 1.84 or 1.152.

B. _____ objected to by the Draftperson under 37 CFR 1.84 or 1.152 as indicated below. The Examiner will require submission of new, corrected drawings whe necessary. Corrected drawings must be submitted according to the instructions on the back of this notice.

1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings: Black ink. Color.
   - _____ Color drawing are not acceptable until petition is granted. Fig.(s) _____
   - _____ Pencil and non black ink is not permitted. Fig(s)_____
2. PHOTOGRAPHS. 37 CFR 1.84(b)
   - _____ Photographs are not acceptable until petition is granted,
   - _____ 3 full-tone sets are required. Fig(s)_____
   - _____ Photographs not properly mounted (must brystol board or photographic double-weight paper). Fig(s)_____
   - _____ Poor quailty (half-tone). Fig(s)_____
3. TYPE OF PAPER. 37 CFR 1.84(e)
   - _____ Paper not flexible, strong, white and durable. Fig.(s)_____
   - _____ Erasures, alterations, overwritings, interlineations, folds, copy machine marks not acceptable. (too thin)
   - _____ Mylar, vellum paper is not acceptable (too thin). Fig(s)_____
4. SIZE OF PAPER. 37 CFR 1.84(F): Acceptable sizes:
   - _____ 21.0 cm by 29.7 cm (DIN size A4)
   - _____ 21.6 cm by 27.9 cm (8 1/2 x 11 inches)
   - _____ All drawings sheets not the same size. Sheet(s)_____
5. MARGINS. 37 CFR 18.4(g): Acceptable margins:
   - Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm SIZE: A4 Size
   - Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm SIZE: 8 1/2 x 11
   - _____ Margins not acceptable. Fig(s)_____
   - _____ Top (T) _____ Left (L)
   - _____ Right (R) _____ Bottom (B)
6. VIEWS. CFR 1.84(h)
   REMINDER: Specification may require revision to correspond to drawing changes.
   - _____ Views connected by projection lines or lead lines. Fig.(s)_____

   Partial views. 37 CFR 1.84(h)(2)
   - _____ Brackets needed to show figure as one entity. Fig.(s)_____
   - _____ Views not labeled separately or properly. Fig.(s)_____
   - _____ Enlarged view not labeled separately or properly. Fig.(s)_____
7. SECTIONAL VIEWS. 37 CFR 1.84(h)(3)
   - _____ Hatching not indicated for sectional portions of an object. Fig.(s)_____
   - _____ Sectional designation should be noted with Arabic or Roman numbers. Fig.(s)_____
8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i)
   - _____ Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned, so that the top becomes the right side, except for graphs. Fig.(s)_____
   - _____ Views not on the same plane on drawing sheet. Fig.(s)_____
9. SCALE. 37 CFR 1.84(k)
   - _____ Scale not large enough to show mechansim with crowding when drawing is reduced in size to two-thirds in reproduction. Fig.(s)_____
10. CHARACTER OF LINES, NUMBERS, & LETTERS. 37 CFR 1.84(l)
    - _____ Lines, numbers & letters not uniformly thick and well defined, clean, durable and black (poor line quality). Fig.(s)_____
11. SHADING. 37 CFR 1.84(m)
    - _____ Solid black areas pale. Fig.(s)_____
    - _____ Solid black shading not permitted. Fig.(s)_____
    - _____ Shade lines, pale, rough and blurred. Fig.(s)
12. NUMBERS, LETTERS, & REFERENCE CHARACTERS. 37 CFR 1.48(p)
    - _____ Numbers and reference characters not plain and legible. Fig.(s)_____
    - _____ Figure legends are poor. Fig.(s)_____
    - _____ Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(3) Fig.(s)_____
    - _____ Engligh alphabet not used. 37 CFR 1.84(p)(3) Fig.(s)_____
    - _____ Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3) Fig.(s)_____
13. LEAD LINES. 37 CFR 1.84(q)
    - _____ Lead lines cross each other. Fig.(s)_____
    - _____ Lead lines missing. Fig.(s)_____
14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.48(t)
    - _____ Sheets not numbered consecutively, and in Ababic numerals beginning with number 1. Fig.(s)_____
15. NUMBERING OF VIEWS. 37 CFR 1.84(u)
    - _____ Views not numbered consecutively, and in Abrabic numerals, beginning with number 1. Fig.(s)_____
16. CORRECTIONS. 37 CFR 1.84(w)
    - _____ Corrections not made from PTO-948 dated_____
17. DESIGN DRAWINGS. 37 CFR 1.152
    - _____ Surface shading shown not appropriate. Fig.(s)_____
    - _____ Solid black shading not used for color contrast. Fig.(s)_____

COMMENTS

REVIEWER _____ DATE_____ TELEPHONE NO._____

ATTACHMENT TO PAPER NO._____

APPLICANT'S COPY

Illustration 9.1—Notice of Draftsperson's Patent Drawing Review

described in such full, clear, concise, and exact terms as to enable any person skilled in the art to make and use the same." ("Art," in this context, means the field of the invention.)

Such an objection or rejection may be applied to utility or design patent applications.

When Applied to Utility Patent Application

When an objection or rejection under 35 U.S.C. § 112 is made in a utility patent application, the drawings may not be mentioned. However, they are usually also affected, because the drawings and description cooperate to provide the enabling disclosure.

Such an objection or rejection may be overcome if you can argue that the disclosure is in fact enabling—that is, it describes and/or shows the invention clearly enough to enable one skilled in the field to make and use the invention. (Refer to *Patent It Yourself*, Chapter 13, for how to make such arguments.) Otherwise, additional description and/or drawings must be added by filing a continuation-in-part (CIP) application. See below and *Patent It Yourself*, Chapter 14, for details on filing a CIP application.

EXAMPLE 1:

An application for a stair-climbing, motorized wheelchair describes and shows in detail the mechanism for climbing stairs. The application includes a circuit diagram that does not show a source of electrical power. An inexperienced examiner objects to the specification and drawings, and rejects the claims for failure to provide an enabling disclosure, because a source of electrical power is neither described nor shown. The objection and rejection can be overcome by arguing that anyone skilled in the field, such as an engineer, knows to provide a suitable source of power—such as a battery—and that the power supply is customarily omitted in circuit diagrams.

EXAMPLE 2:

An application describes a self-healing tire that automatically seals punctures, but does not describe how it is accomplished. The drawings show only the exterior of the tire. The examiner objects to the specification and drawings, and rejects the claims for failure to provide an enabling disclosure, because the application neither describes nor shows how to make the invention. In this case, the objection and rejection can be overcome by filing a CIP application to provide details on how the self-healing works or by citing a previous publication (patent, periodical, textbook) that describes how to make a self-healing tire. Note that there is a serious disadvantage to filing a CIP application: If the original disclosure was inadequate, the CIP will only be entitled to its filing date; it will not be entitled to any benefit of the filing date of the parent case.

When Applied to Design Patent Application

An objection or rejection under 35 U.S.C. § 112 may also be applied to a design patent application, because the precise or complete appearance of the invention is unclear. The Office Action will specify why the drawings are inadequate—for example, they lack shading, are roughly drawn, or do not show all sides of the invention. It is usually difficult to successfully argue that the drawings are adequate in this situation, so the only response is to fix the drawings to provide the additional information. However, you may add features to a drawing *only* if the information being provided is already

shown in some of the other drawings as filed. If the information being added is not shown in any way in the original drawings, you must file a CIP application. See below and *Patent It Yourself*, Chapter 14, for details on CIP applications.

EXAMPLE:

The original drawings of an application include a front perspective view of a chair. The figure lacks shading, so that the surface contours of the seat and backrest are not clear. The examiner objects to the figure for lacking shading. Fortunately, the drawings also include a side sectional view that clearly shows the contours of those parts. Surface shading may thus be added to the perspective view to overcome the objection without adding new matter because the contours are already shown in the side sectional view. Additional drawings may also be added to show the chair from different angles if they do not reveal any features that are not in the original drawings. However, if the original drawings do not include a side sectional view, so that the contours of the seat and backrest are not clearly shown in any figure, then the only way to overcome the objection is to file a CIP application to provide the sectional view or shading.

Objection Under 37 CFR § 1.83(a) for Failure to Show Claimed Feature

In utility or design patent applications, an objection may be made under 37 CFR § 1.83(a). Such an objection reads as follows:

"The drawings are objected to under 37 CFR § 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the [element] in claim [x] must be shown or the feature deleted from the claim. No new matter should be entered."

Such an objection is applied when a claim recites (mentions) a certain element (feature), but such element is not shown in the drawings. The element may be added to the drawings without introducing new matter, provided that what is added to the drawings is no more detailed than what is recited in the specification or claim. That is, as discussed above, unless the element is very simple or readily understood by one skilled in the art—such as a hinge, a switch, or a power supply—the description or claims must be detailed enough to support the changes to the drawings. It may be possible to add a labeled box to the drawing to avoid violating the no-new-matter rule. For example, if a claim recites a jet sprayer and the drawing is objected to for failing to show any jet sprayer, you can simply add a box labeled "jet sprayer" to the drawing in order to overcome this objection without adding new matter; see below. Otherwise, you must delete the element from the claim or file a CIP application to add the element to the drawings. (See below and *Patent It Yourself*, Chapter 14, for details on CIP applications.) Even if the feature may be properly added to the drawings, you may choose to delete it from the claim if it is not important, so as to avoid having to make a new drawing.

Objection Under 37 CFR § 1.84(p)(4) for Improper Reference Numbers

In utility patent applications, an objection may be made under 37 CFR § 1.84(p)(4). Such an objection reads as follows:

"The drawings are objected to under 37 CFR § 1.84(p)(4). The same part of an invention appearing in more than one view of the drawing must always be designated by the same reference character, and the same reference character must never be used to designate different parts."

Such an objection is applied when there is a mismatch in the reference numbers between the different figures. It may be overcome by changing the numbers in the drawings to ensure that the same parts in different figures have the same number, and that different parts never share the same number. Having a list of reference numbers in the specification may help you keep the numbers straight and avoid this objection.

EXAMPLE 1:

An objection is made because the number 12 is used to designate a bracket in Fig. 1, but the number 18 is used to designate the same bracket in Fig. 2—that is, different numbers are used to designate the same element. The objection can be overcome by changing 12 to 18 in Fig. 1, or changing 18 to 12 in Fig. 2, so that the bracket is designated with the same number in both figures. You will have to file a new sheet of drawings to overcome the objection. The bracket must be also properly numbered in the written description to correspond with the drawings.

EXAMPLE 2:

An objection is made because a lever and a button are both designated with the number 24 in the drawings—that is, the same number is used to designate different elements. The objection can be overcome by changing the drawings so that the lever and the button are designated with different numbers. Again, the elements must also be numbered in the written description to correspond with the drawings.

Objection Under 37 CFR § 1.84(p)(5) for Missing Reference Numbers

In utility patent applications, an objection may be made under 37 CFR § 1.84(p)(5). Such an objection reads as follows:

"The drawings are objected to under 37 CFR § 1.84(p)(5). Reference characters not mentioned in the description must not appear in the drawings. Reference characters mentioned in the description must appear in the drawings."

Such an objection is applied when there is a mismatch between the reference numbers in the drawings and those in the written description, so that a reference number is "missing." This objection may be overcome by making changes to either the drawings or description to ensure that each reference number appears in both the description and drawings, and never just one or the other. Again, including a list of reference numbers in the specification may help you keep the numbers straight and avoid this objection.

EXAMPLE 1:

An objection is made because the number 32 is used to designate a cylinder in the drawings, but the number 27 is used to designate the cylinder in the written description—that is, different numbers are used in the drawings and the written description to designate the same element. The objection can be overcome by changing 32 to 27 in the drawings, or changing 27 to 32 in the written description, so that the cylinder is designated with the same

number in both the drawings and written description.

EXAMPLE 2:

An objection is made because a power cord is designated with the number 19 in the drawings, but the same number does not appear in the written description. The objection can be overcome by either deleting the number 19 from the drawings, or adding the number 19 to the written description to designate the power cord, so that the number 19 is used to designate the same element in both the drawings and the written description.

EXAMPLE 3:

An objection is made because a socket is designated with the number 36 in the written description, but the same number does not appear in the drawings. The objection can be overcome by either deleting the number 36 from the written description, or adding the number 36 to the drawings to designate the socket, so that the number 36 is used to designate the socket in both the drawings and the written description.

Notice of Draftsperson's Patent Drawing Review

A Notice of Draftsperson's Patent Drawing Review, as shown in Illustration 9.1, previously was included with the first Office Action for all applications with drawings. However, as stated, under new Rule 85(a) it may be sent soon after filing, and if so, you must comply with it before the application will be sent to the examiner. It is issued by the Drawing Review Branch. You will get a well-deserved sense of satisfaction if Part A on the top left of the Notice is checked to indicate that the drawings are acceptable.

If Part B is checked, the drawings have been determined to be out of compliance with one or more rules. As shown in Illustration 9.1, the specific objections are detailed in categories 1 to 17, each of which has several related items. The probable cause and remedy for each objection is discussed below.

Drawings. 37 CFR 1.84(a): Acceptable categories of drawings: Black ink. Color

__ **Color drawings are not acceptable until petition is granted.**

Probable cause of objection: Color drawings or color photographs have been submitted without filing the required petition and fee.

Remedy: File a petition and fee, or replace them with black line drawings. If a petition has already been filed, the drawings will be accepted when and if the petition is granted, provided that there are no other objections. You should call the director of your examining group, which is listed on your filing receipt, to make sure the petition was received and will be acted upon soon. It may take several calls to make sure the petition has been acted upon and the objections have been resolved. If the petition is denied, black line drawings must be substituted for them. (See Chapter 8 for details on petitions.)

__ **Pencil and non black ink. Fig(s)_____**

Probable cause of objection: The drawings were done with a pencil or other nonblack writing instrument or on an inkjet printer.

How to File Corrected Drawings in the PTO

If you are a registered eFiler (see *Patent It Yourself*, Chapter 10), you can file new drawings (and any other papers you desire) via the Internet by converting the new drawings to PDF format (by scanning them to PDF or by using a file-conversion utility). Then after logging on, identify your patent application, attach the PDF files of the new drawings, and select the names of the attachments. There is no fee. You should also accompany the new drawings with a transmittal or cover letter (also converted to PDF); use the Submission of Corrected Drawings form in the appendix. You should explain the changes in the space provided in this form. If the changes will not be easy to understand from the cover letter alone, attach a copy of the original drawings marked up to show the changes. Omit the Certificate of Mailing from the cover letter.

If you're not a registered eFiler, you must file the drawings by mail or by fax. Be sure to accompany the new drawings with a transmittal or cover letter; use the Submission of Corrected Drawings form in the appendix. Also type or write "Replacement Drawing, Ser. Nr. ___/_____" [insert your serial number] on the top of each drawing sheet. Be sure to package the drawings carefully so they won't get wrinkled in the mail. You should mail the PTO a good photocopy of the new drawings and keep the originals. If the changes will not be easy to understand from the cover letter alone, you should attach a copy of the original drawings marked up in red ink to show the changes.

If you file by fax, fax the cover letter and the new drawings to the PTO's central fax number (571-273-8300). Make sure that the fax machine or computer you use can transmit crisp, clean drawings. Use the following Certificate of Facsimile Transmission instead of the Certificate of Mailing on the cover letter:

Certificate of Facsimile Transmission

I hereby certify that on the date below I will fax this paper and referenced attachments if any, to the Patent and Trademark Office, GAU

_____

at 1-571-273-8300.

Date: 20xx _____

_____

_____,

Applicant Pro Se

Remedy: Redo the drawings in solid black lines with a proper black pen or printer.

Photographs. 37 CFR 1.84(b)

__ Photographs are not acceptable until petition is granted.

Probable cause of objection: Color photographs have been submitted without filing the required petition.

Remedy: File a petition and fee. The petition will be granted or approved only if color photographs are absolutely necessary for adequately illustrating the invention (see Chapter 8). If the petition is denied, the color photographs must be replaced with black line drawings. They may also be replaced with black-and-white photographs if black line drawings cannot adequately illustrate the invention. There is no petition necessary for filing black-and-white photographs, but the conditions for their acceptance are almost as stringent as those for color photographs (see Chapter 4).

__ 3 full-tone sets are required. Fig.(s)_____

Probable cause of objection: Fewer than three sets of color photographs are filed (three sets of photos are required only when filing color photos).

Remedy: File three sets of color photographs. (See Chapter 8).

__ Photographs not properly mounted (must use Bristol board or photographic double-weight paper). Fig.(s)_____

Probable cause of objection: Photographs not mounted on the proper paper.

Remedy: Make new copies of the photos, mount them on the required paper, and file the mounted photos.

__ Poor quality (half-tone). Fig.(s) _____

Probable cause of objection: Poor quality black-and-white photographs.

Remedy: Submit new black-and-white photographs of sufficient quality, or submit black line drawings. (See Chapter 4.)

Type of Paper. 37 CFR 1.84(e)

__ Paper not flexible, strong, white, smooth, nonshiny, and durable. Sheet(s) _____

Probable cause of objection: The drawings have been done on poor paper, perhaps yellow notepad paper, grid paper, napkin, wrinkled paper, easily erasable paper, translucent paper, and so on.

Remedy: Redo, photocopy, or reprint the drawings on all white, nonshiny, and smooth paper, such as copier or laser printer paper. (See Chapter 8.)

__ Erasures, alterations, overwritings, interlineations, cracks, creases, and folds not allowed. Sheet(s) _____

Probable cause of objection: The drawings include incomplete erasures, graphic elements or text that has been overwritten with heavy lines, or the paper is cracked, creased, or folded.

Remedy: Redo, photocopy, or reprint the drawings to ensure that there are no incomplete erasures and overwriting, and that the paper is not cracked, creased, or folded. (See Chapter 8.)

__ Mylar, vellum paper is not acceptable.
Sheet(s) _____

Probable cause of objection: Drawings done on very thin or translucent/transparent sheets.

Remedy: Resubmit the drawings on opaque white paper of at least 20 lb. weight. (See Chapter 8.)

Size of Paper. 37 CFR 1.84(f): Acceptable sizes

__ 21.0 cm by 29.7 cm (DIN size A4) or
__ 21.6 cm by 27.9 cm (8½ x 11 inches)

Probable cause of objection: The drawing sheets are not one of the indicated sizes.

Remedy: Resubmit the drawings on the proper size paper. (See Chapter 8.)

__ All drawing sheets not the same size.
Sheet(s) _____

Probable cause of objection: The specific drawing sheets indicated are of a different size from the rest.

Remedy: Resubmit the ones indicated to match the size of the remaining sheets. (See Chapter 8.)

Margins. 37 CFR 1.84(g): Acceptable margins

Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm
SIZE: A4 Size
Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm
SIZE: 8½ x 11

__ Margins not acceptable. Fig(s) _____

__ Top (T) __ Left (L) __ Right (R) __ Bottom (B)

Probable cause of objection: Drawing figures have intruded into the specified margin.

Remedy: Move the figures out of the specified margin. (See Chapter 8.) We have received this objection even when the figures are clear of the margins by several millimeters. The PTO drawing reviewers seem to use different rulers than we do, or they may make sloppy measurements. If this happens to you, just move the figures even farther away from the edge. (See below for techniques on making changes.) Alternatively, if you don't mind dealing with a large bureaucracy, you may call the Drafting Review Branch and ask to have your drawing margins measured again.

Views. 37 CFR 1.84(h)

REMINDER: Specification may require revision to correspond to drawing changes.

__ Views connected by projection or lead lines.
Fig.(s)_____

Probable cause of objection: Dashed or lead lines extending between figures with different figure numbers.

Remedy: Delete the dashed or lead lines. (See Chapter 8.)

Partial Views. 37 CFR 1.84(h)(2)

__ Brackets needed to show figure as one entity.
Fig.(s)_____

Probable cause of objection: An exploded view not enclosed by a bracket.

Remedy: Resubmit the drawing sheet with a bracket enclosing the exploded view. (See Chapter 6.)

__ Views not labeled separately or properly.
Fig.(s)_____

Probable cause of objection: Parts of a large drawing split onto multiple sheets share

the same figure number or are otherwise numbered improperly.

Remedy: Renumber the figures with different figure numbers. (See also Chapter 6.)

__ **Enlarged view not labeled separately or properly. Fig.(s)_____**

Probable cause of objection: Two figures, one showing an enlarged portion of another, share the same figure number or are otherwise numbered improperly.

Remedy: Renumber the figures with different figure numbers. (See also Chapter 6.)

Sectional Views. 37 CFR 1.84(h)(3)

__ **Hatching not indicated for sectional portions of an object. Fig.(s)_____**

Probable cause of objection: Sectioned or cutaway parts lack hatching.

Remedy: Provide hatching on the sectioned parts. (See Chapter 6.)

__ **Sectional designation should be noted with Arabic or Roman numbers. Fig.(s)_____**

Probable cause of objection: The sectioning plane should be noted in a general view with a double-ended arrow with numbers corresponding to the sectional figures.

Remedy: Resubmit the drawing with the sectioning plane arrow and numbers. (See Chapter 6.)

Arrangement of Views. 37 CFR 1.84(i)

__ **Words do not appear in a horizontal, left-to-right fashion when page is either upright or turned, so that the top becomes the right side, except for graphs. Fig.(s)_____**

Probable cause of objection: Some text not oriented upright or horizontal with respect to the top of the sheet.

Remedy: Rearrange the text so that everything is oriented upright and horizontal with respect to the top of the sheet, depending on whether the sheet is in portrait or landscape orientation. (See Chapter 8.)

__ **Views not on the same plane on drawing sheet. Fig.(s)_____**

Probable cause of objection: All figures on a sheet are not oriented in the same direction.

Remedy: Resubmit the drawing sheet with the figures in the same orientation. (See Chapter 8.)

Scale. 37 CFR 1.84(k)

__ **Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction. Fig.(s)_____**

Probable cause of objection: The figure is too small to show details clearly.

Remedy: Enlarge the figure to show all of its details clearly. (See Chapter 8.)

Character of Lines, Numbers, & Letters. 37 CFR 1.84(l)

__ **Lines, numbers & letters not uniformly thick and well-defined, clean, durable, and black (except for color drawings). Fig.(s)_____**

Probable cause of objection: Lines or text not sharp, uniformly thick, or black enough. This is the most common objection. Unacceptable lines are usually produced by improper pens, paper, drawing techniques, software, or printer. For example, pencils, ballpoint pens,

and rollerball pens usually do not produce acceptable lines, although some good quality roller pens may pass muster. Freehand lines, even if sharp, are usually not acceptable. Rough, highly porous paper will cause the ink to feather (seep out). Bitmap drawing programs usually produce very jagged lines. Dot matrix printers also produce jagged lines. Inkjet printers will not produce acceptable output if a paper not designed for inkjet printers is used; such papers tend to cause the ink to feather or seep out. Inkjet printers may, but do not always, produce acceptable output if special inkjet paper is used. Even laser printers may produce unacceptable lines, usually because the lines are too thin (at or less than 0.1 mm), or because the lines are too jagged, which is typical of 300 dpi printers.

Remedy: Redraw the specified figures with the proper pens and techniques, thicken the thinnest lines and reprint the drawings, reprint the drawings with a laser printer instead of an inkjet printer, reprint the drawings with a 600 dpi printer, or use a cleaner or better copier. (See Chapter 8.)

Shading. 37 CFR 1.84(m)

__ **Solid black areas pale. Fig.(s)_____**

Probable cause of objection: Solid black areas not dark enough—for example, not filled in sufficiently with a pen, or were printed with an ink-jet printer.

Remedy: Completely darken the solid black area with a black pen, or print with a laser printer. (See Chapters 7 and 8.)

__ **Solid black shading not permitted. Fig.(s)_____**

Probable cause of objection: Areas are filled with solid black.

Remedy: Delete the solid black areas and leave an open outline. In line drawings, solid black areas are permitted only for representing the color black in an invention in which color is important. (See Chapters 7 and 8.)

__ **Shade lines pale, rough and blurred. Fig.(s)_____**

Probable cause of objection: Shading lines not dark and sharp enough, perhaps done with a poor quality pen, pencil, or inkjet printer.

Remedy: Use a good quality pen or a laser printer. (See Chapters 7 and 8.)

Numbers, Letters, & Reference Characters. 37 CFR 1.84(p)

__ **Numbers and reference characters not plain and legible. Fig.(s)_____**

Probable cause of objection: Text is poorly formed, either due to an improper pen, technique, software, printer, or copier. As stated, pencils, ballpoint pens, and rollerball pens usually do not produce acceptable text. Freehand text is usually not acceptable, unless done extremely neatly and professionally. Fonts or writing with very thin lines (at or less than 0.1 mm) are usually not acceptable. Bitmap drawing programs usually produce very jagged text. Dot matrix printers also produce jagged text. Inkjet printers may, but do not always, produce acceptable text if special inkjet paper is used. All 600 dpi laser printers should produce acceptable text.

Remedy: Redraw the specified figures with the proper pens and techniques, use a thicker font or pen, print on special inkjet paper, reprint the drawings with a 600 dpi laser printer instead of an inkjet printer, or use a cleaner or better copier. (See Chapters 2 and 3.)

__ **Figure legends are poor. Fig.(s)_____**

Probable cause of objection: Characters are poorly drawn, perhaps by hand.

Remedy: Redraw the characters very carefully with a template or lettering set. (See Chapter 2.)

__ **Numbers and reference characters not oriented in same direction as the view. 37 CFR 1.84(p)(3). Fig.(s)_____**

Probable cause of objection: Some text not oriented upright or horizontal with respect to the top of the sheet.

Remedy: Rearrange the text so that all of it is oriented upright and horizontal with respect to the top of the sheet, depending on whether the sheet is in portrait or landscape orientation. (See Chapter 8.)

__ **English alphabet not used. 37 CFR 1.84(p)(3). Fig.(s)_____**

Probable cause of objection: Non-English letters are used.

Remedy: Use English letters, or use numbers. (See Chapter 8.)

__ **Numbers, letters, and reference characters must be at least .32 cm (⅛ inch) in height. 37 CFR 1.84(p)(3). Fig.(s)_____**

Probable cause of objection: Text is too small.

Remedy: Make all text, including lowercase letters, at least ⅛", 3.2 mm, or 14 points tall. (See Chapter 8.)

Lead Lines. 37 CFR 1.84(q)

__ **Lead lines cross each other. Fig.(s)_____**

Probable cause of objection: Some lead lines cross each other.

Remedy: Reposition the lead lines, and also reference numbers if necessary, so that the lines do not cross each other. (See Chapter 8.)

__ **Lead lines missing. Fig.(s)_____**

Probable cause of objection: One or more lead lines are missing for some reference numbers.

Remedy: Provide a lead line between each reference number or letter and its corresponding part in the drawings. (See Chapter 8.)

Numbering of Sheets of Drawings. 37 CFR 1.84(t)

__ **Sheets not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig.(s)_____**

Probable cause of objection: Drawing sheets not numbered consecutively, are in non-Arabic numerals (something other than 1, 2, or 3), or do not start with 1.

Remedy: Renumber the sheets in consecutive Arabic numerals, starting with 1. (See Chapter 8.)

Corrections. 37 CFR 1.84(w)

__ **Corrections not made from Patent and Trademark Office-948 dated _____**

Probable cause of objection: Objections listed on a previous Notice of Draftsperson's Patent Drawing Review form have not been made.

Remedy: Make the corrections indicated on the previous form.

Design Drawings. 37 CFR 1.152

__ Surface shading shown not appropriate. Fig.(s)_____

Probable cause of objection: Inappropriate shading that does not properly depict the surface shape or contour, or shading of an inappropriate type.

Remedy: Redo the shading according to accepted techniques and to properly depict the desired shape. (See Chapter 7.)

__ Solid black shading not used for color contrast. Fig.(s)_____

Probable cause of objection: Solid black areas are used.

Remedy: Delete the solid black areas and leave an open outline. (See Chapter 8.)

Do Not Add New Matter

Many defects cited by the objections and rejections, such as unclear description or drawings that lack sufficient detail, are seemingly curable by changing the description or drawings. However, after an application is filed, no new matter can be added to the same application. (New matter is any technical information not in the description, claims, or drawings as originally filed.) The objections and rejections cannot be overcome by substantively changing the information in the application, no matter how slightly; they must be overcome by relying on the information provided in the original application.

Changing Drawings Without Introducing New Matter

The new matter prohibition does not mean that the drawings cannot be changed. In a utility patent application, if a feature is not shown in the original drawings, but is specified in the original description and/or claims, it is not new matter, so it may be properly added to the drawings if necessary.

EXAMPLE:

An application includes original drawings that show a portable CD player, but without a speaker. Fortunately, the written description states that a speaker is used. In this case, a speaker can be added to the drawings without violating the new matter prohibition.

Unless the element being added is very simple or readily understood by one skilled in the art—such as a hinge, a switch, or a power supply—the original description must be detailed enough to support the changes to the drawings. However, the feature added to the drawings cannot have any more detail than the original description.

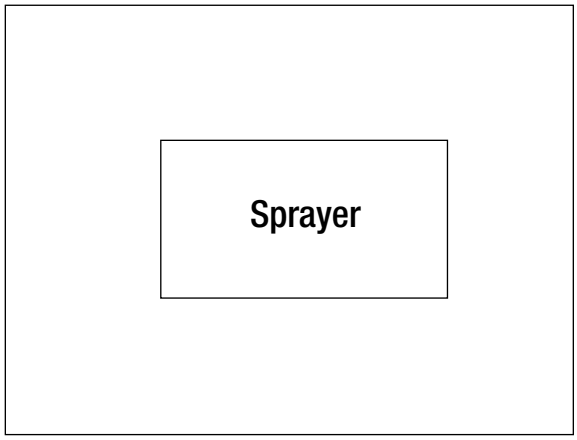

Illustration 9.2—Labeled Box

EXAMPLE:

The written description of a carpet cleaning method states that "a sprayer can be used" to apply a cleaning solution, but no sprayer is shown in the original drawings. The drawings can be changed to show only the most basic, rudimentary sprayer. Alternatively, the sprayer may be represented with a labeled rectangular box to avoid any question of new matter, as in Illustration 9.2.

Generally, features cannot be added to design patent drawings, because there is no detailed description or claims to support them.

Adding New Matter by CIP

Although new matter cannot be added to the same application, it may be added to a *new* application, known as a "continuation-in-part" (CIP) application. (See *Patent It Yourself*, Chapter 14, for more on CIP applications.) However, any claims to the new matter will not get the benefit of the original filing date, so any relevant invention that predates the new matter may be used by the PTO to reject the CIP application.

EXAMPLE:

Maria Spinoza invented a chair on Jan. 1, 1996, and filed a patent application for it on the same day. On June 1, 1996, she added casters (wheels) to the legs of the chair; she then filed a CIP application on the same day to include the casters. However, on May 30, 1996, another inventor, Lucy Kant, created an identical chair with casters, and filed an application for it on that same day. Maria was unable to obtain a patent on a chair with casters because Lucy's chair with casters predated Maria's CIP application.

Also, under the 20-year-from-filing patent term, any patent based on a CIP application will expire 20 years from the filing date of the original (parent) application. The CIP application can lengthen the time it takes to get a patent from several months to a couple of years, so the patent term is effectively reduced by the same amount. For these reasons, CIP applications should be avoided by ensuring that the original drawings, as well as the original written description, include enough information to enable one skilled in the pertinent field to make and use the invention. Alternatively, it may make sense to file an entirely new application if you feel that relevant prior art has not been issued in the meantime. You should consult with a patent agent or an attorney for advice in this situation.

Removing Features

Removing a feature may be considered as introducing new matter if its removal changes the invention. For design inventions, *nothing may be removed*, because the appearance of a design invention cannot be changed after filing, not even slightly. However, if the feature was described in the original application as not being part of the invention, or if the feature was shown in dashed lines (which are used to illustrate features that are not part of the invention; see Chapter 7) in the original drawings, it may be removed without introducing new matter—that is, altering the design.

EXAMPLE 1:

A utility application for a lamp describes and shows a switch for turning the lamp on and off at will. The switch cannot be deleted from the application, because its removal will substantively change the invention—that is, the lamp will turn on and stay on all the time when it is plugged in—and introduce new matter.

EXAMPLE 2:

A design application for a clock shows a plain clock face with a single round dot at the 12 o'clock position. The dot cannot be deleted from the drawings without introducing new matter. The application also shows a power cord. If the power cord is shown in solid lines, it cannot be deleted from the drawings without introducing new matter. However, if the power cord is shown in solid lines, but the description for the figures states that the power cord is not part of the invention, it may be deleted from the drawings without introducing new matter. Also, if the power cord is shown in dashed lines, even if there is no statement indicating that it is not part of the invention, it may be deleted from the drawings without introducing new matter.

Correcting the Drawings

The PTO will not correct the drawings for you or return them to you. New drawings or corrected copies must be submitted. Therefore, if you made the drawings by hand, you should keep the originals in case corrections are required. If you made them with a computer, keep the computer file and make a backup so you may make changes later. (It's always a good idea to keep backups.) Be careful not to introduce new matter; see above for details.

Correcting Ink Drawings

If you made the drawings by hand, you must correct the original and submit a good quality photocopy free of copier specks. Drawings made on bristol board, vellum, or Mylar film, which is a durable and substantially nonporous plastic sheet, may be erased with a suitable eraser (see Chapter 2) without damaging the surface. The elements to be deleted must be completely erased, so that no trace of such elements appear on a photocopy.

Drawings made on porous paper cannot be erased without damaging or fraying the paper. Ink applied on the frayed areas will feather, so the drawings will again be objected to. Therefore, it is best to use white correction fluid on porous paper. Correction fluid does not provide an ideal surface for ink; so if large areas are covered, the lines applied over it will probably be poor, which may again be objected to. Redoing the entire sheet may be preferable in such a situation.

If the figures on a sheet must be repositioned, they may be cut out, taped, or glued onto a new sheet, and photocopied. Make sure that the edges of the pasted pieces do not appear on the photocopy. If they do, try taping or gluing down the offending edge, or covering the unwanted lines of the photocopy with white correction fluid.

Correcting CAD Drawings

Correcting CAD drawings is easy. Just open the drawing file, make the necessary changes on screen, and print a new copy. This is one of the greatest advantages of making drawings with a computer.

Adding an Element to a Drawing

If an element is specified in the description but not shown in the original drawings, it may optionally be added to the drawings. If the element is specified in the claims but not shown in the original drawings, it must be added to the drawings, or the element must be deleted from the claims. Such a requirement is typically stated in an Office Action.

Prior to making any changes to the drawings (other than to make minor corrections, or corrections in response to the Notice of

Draftsperson's Drawing Review), you must first obtain permission from the examiner. To obtain permission, file a copy of the drawing sheet to be changed, with the element being added shown in red, along with a copy of the Submission of Corrected Drawings which is in the appendix.

You can make a photocopy of the original drawing and draw the element in red ink. If you are drawing with a computer, you may print the drawing with the new element in black and trace over or circle it with red ink. It is expedient to concurrently submit an extra copy of the drawing sheet with the new element properly executed in black lines. If you do this, check the box next to the following sentence in the request: "A formal copy of the drawing with the proposed changes is also enclosed."

Making Voluntary Changes

After filing, or after receiving an office action, you may feel the need to make voluntary changes to the drawings. These changes can include adding or changing elements, deleting elements, correcting reference numerals, and so forth. These changes (and all other changes) must be done by filing new "corrected" drawings. Formerly, applicants had to obtain permission from the examiner to file corrected drawings, but now you may file the corrected drawings without permission. However, you must be sure these new drawings don't contain any new matter. Otherwise the examiner will object to them and require you to eliminate the new matter.

You may make voluntary changes anytime before the application is allowed. You may even be able to make them after allowance before the issue fee is paid under Rule 312—see *Patent It Yourself*, Chapter 13.

Filing Corrected Drawings

Subject to approval by the examiner, voluntary changes may be filed any time before the application is allowed. Under new Rule 85(a), corrections required by the Drawing Review Branch must usually be made before the application is sent to the examiner for examination. Corrections required by the examiner may be filed with the written response (see *Patent It Yourself*, Chapter 13, for details on Office Action responses). Applicants are no longer allowed to defer drawing corrections until after allowance unless the examiner gives permission to do so. If the examiner does give such permission, the corrected drawings must be filed within three months from the mailing date of the Notice of Allowance (a notice indicating that the application is allowable). They should be filed as soon as possible after allowance, because if the drawings are again objected to, another set of corrected drawings must be filed within the same three-month period. Otherwise you will have to buy an extension to submit the corrected drawings after the three-month period. (The issue fee must be filed within the three-month period; it cannot be extended.) Whenever you submit a new (replacement) drawing sheet, clearly write or print "Replacement Drawing" and include the application serial number and the inventor's name on the front side of each sheet, centered within the top margin. (See Chapter 8 for margin requirements.) Send in the drawings with the Submission of Corrected Drawings form in the appendix. (This form is not required if you're a registered eFiler and you submit the drawings by EFS-Web.)

Summary

Congratulations on finishing the book! As with any endeavor that requires a new skill, you may not be able to turn out patent drawings immediately. There are learning curves associated with ink drafting and computer drafting. Be patient in your efforts to get the equipment together and in your initial attempts to use them. Reread the relevant sections of the book as necessary. In the end, you will find that your work will pay off in savings—and in having the satisfaction of being able to create professional-looking patent drawings yourself.